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COMMITTEE ON THE PEACEFUL USES
OF OUTER SPACE

DRAFT REPORT OF THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE ON THE WORK OF ITS THIRTIETH SESSION

Addendum

IX. MATTERS RELATING TO LIFE SCIENCES, INCLUDING SPACE MEDICINE

1. In accordance with General Assembly resolution 47/67, the Subcommittee continued its consideration of this item. The Subcommittee heard a special presentation on the question by an expert from the United States, as mentioned in paragraph ..... of the present report.

2. The Subcommittee recalled that the General Assembly, in resolution 47/67, had considered it particularly important that all countries should have the opportunity to use the techniques resulting from medical studies in space.

3. The Subcommittee noted that studies of human and animal physiology under the microgravity conditions of space flight had led to important advances in medical knowledge in such areas as blood circulation, sensory perception, immunology and the effects of cosmic radiation. It noted that important new information in these fields had been obtained through experiments on the Mir space station, the United States Space Shuttle, the United States/ESA Spacelab, the European Recoverable Carrier (Eureca), biological satellites and sounding rockets.

4. The Subcommittee noted that applications of space technologies were demonstrating growing promise in medicine and public health on Earth. Satellite communications for telemedicine were providing expert medical advice to distant areas, as illustrated by the Telemedicine Spacebridge linking medical centres in the United States and the Russian Federation. The Subcommittee also noted that products of space biotechnology, such as pharmaceuticals and medical instruments, could contribute to improved health care. The Subcommittee noted the importance of space technology for these

purposes and encouraged further research and exchange of information on those applications.

5. The Subcommittee noted that space studies in life sciences and medicine had important potential benefits for all countries and that efforts should be made to promote international cooperation to enable all countries to benefit from those advances.

6. The Subcommittee recommended that consideration of the item be continued at its next session.

X. MATTERS RELATING TO PLANETARY EXPLORATION

XI. MATTERS RELATING TO ASTRONOMY

7. In accordance with General Assembly resolution 47/67, the Subcommittee continued its consideration of these items. The Subcommittee heard special presentations on the items by experts from the United States, as mentioned in paragraph ..... of the present report.

8. The Subcommittee noted that several planetary exploration missions were currently under way. The Magellan spacecraft was completing its systematic radar mapping programme of Venus. The Galileo spacecraft was on its way to Jupiter, having passed around Venus and the Earth and made close observations of the asteroid Gaspra. The Ulysses spacecraft, following its swing-by manoeuvre of Jupiter, was moving away from the plane of the solar system on its way to observe the polar regions of the Sun. The Mars Observer was en route to make close observations of Mars. The Giotto spacecraft had been reactivated to make observations of the comet Grigg-Skjellerup. The Subcommittee also noted the plans for future spacecraft to conduct comprehensive investigations of Mars and Saturn and its moons. The Subcommittee noted the high degree of international cooperation in all of those investigations and stressed the need to further enhance international cooperation in planetary exploration to enable all countries to benefit from and participate in those activities.

9. The Subcommittee noted that the use of spacecraft for making astronomical observations from above the atmosphere had greatly advanced knowledge of the universe by allowing observations in all regions of the electromagnetic spectrum. It noted that with the Hubble Space Telescope, the Rosat, Granat and Roentgen-Kvant X-ray observatories, the Compton Gamma Ray Observatory, the Hipparcos spacecraft, the Extreme Ultraviolet Explorer, and the Astro-D, Freya and Sampex satellites, and with data from the recent Stretched Rohini Scientific Satellite (SROSS-C), astronomers had powerful tools for their investigations of the universe. The planned launches of the Radioastron satellite, the Spektr-Roentgen-Gamma observatory, the Infrared Space Observatory, Spektr-UV, Relict-2 and the Scientific Applications Satellite (SAC-B) would open up further realms of the universe to detailed observation. The Subcommittee noted with satisfaction that all of those projects were open to broad international cooperation.

10. The Subcommittee recommended that consideration of the items be continued at its next session.

XII. OTHER MATTERS

A. International Space Year - 1992

11. The Subcommittee noted the activities undertaken by the United Nations for International Space Year (ISY) as described in A/AC.105/445/Add.9, including training courses, workshops, conferences, symposia, technical advisory services and publications.

12. Noting that the participation of the United Nations in ISY had been funded by voluntary contributions, the Subcommittee expressed its appreciation to the Member States and international organizations that had made voluntary contributions for the purpose.

13. The Subcommittee noted the wide variety of national and international programmes that had been undertaken as part of ISY, including the activities being coordinated through the Space Agency Forum on International Space Year (SAFISY), COSPAR, IAF and ISPRS. It noted in particular the World Space Congress organized jointly by COSPAR and IAF, including activities organized in cooperation with the United Nations. The Subcommittee also noted that a number of major regional meetings had been organized in the context of ISY, including the European ISY Conference at Munich, Germany, the Asia-Pacific ISY Conference at Tokyo and the Asia-Pacific Workshop on Multilateral Cooperation in Space Technology and Applications at Beijing.

14. The Subcommittee noted that the international programmes initiated during ISY had made important contributions to international cooperation in space activities, particularly in the use of space technology for studying and monitoring the environment. The Subcommittee recognized the importance of continuing those cooperative activities and urged the cooperating countries to encourage other countries to participate.

15. The Subcommittee requested the Secretariat to continue to promote international cooperation in the activities initiated during ISY and to keep it informed of further developments in that area.

B. Space and Earth environment

16. The Subcommittee noted that the General Assembly, in resolution 47/67, had recommended that more attention be paid to all aspects related to the protection and the preservation of the outer space environment, especially those potentially affecting the Earth's environment. The Subcommittee also noted that the General Assembly had considered that it was essential that Member States pay more attention to the problem of space debris and had called for the continuation of national research on the question and for the development of improved technology for the monitoring of space debris.

17. The Subcommittee noted that the General Assembly had considered that, to the extent possible, information relating to the question of space debris should be provided to the Subcommittee in order to allow it to follow the question more closely, and had requested the Secretary-General to invite Member States to provide information on their national research on space debris to the Subcommittee. The Subcommittee took note of the information that had been submitted by Member States in response to that request and that was contained in document A/AC.105/542 and Add.1 and 2. The Subcommittee heard a special presentation on the question by an expert from France, as mentioned in paragraph ..... of the present report.

18. The Subcommittee reaffirmed the importance of reducing the generation of space debris and the need for further research concerning space debris, for the development of improved technology for monitoring space debris and for the compilation and dissemination of data on space debris. It further noted the importance of international cooperation in addressing those issues.

19. The Subcommittee noted that the General Assembly, in resolution 47/67, had considered that space debris could be an appropriate subject for in-depth discussion by the Committee on the Peaceful Uses of Outer Space in the future.

20. The Subcommittee agreed that information on national research on space debris should be provided to the Subcommittee, as in the past. This could be done through the provision of working papers, interventions in the general debate and technical presentations by specialists from Member States and international organizations.

21. The Subcommittee took note of a working paper submitted by Poland (A/AC.105/C.1/L.186) proposing that the Subcommittee request COSPAR to elaborate a report on the protection and preservation of outer space, especially concerning activities potentially affecting the Earth environment.

22. The Subcommittee requested that the Committee on the Peaceful Uses of Outer Space consider whether the question of space debris should be included on the Subcommittee's agenda for its next session.

C. Other reports

23. The Subcommittee welcomed the annual reports of WMO (A/AC.105/537 and A/AC.105/538), ESA (A/AC.105/539), INTELSAT (A/AC.105/540) and INMARSAT (A/AC.105/541) and the preliminary version of the thirty-second report of ITU on telecommunication and the peaceful uses of outer space. The Subcommittee requested those organizations to continue to report on their work.

24. The Subcommittee expressed its appreciation to COSPAR for its report on the progress of space research and to IAF for its report on highlights in space technology and applications, as contained in the publication "Highlights in Space: Progress in Space Science, Technology and Applications" (A/AC.105/522).

25. The Subcommittee noted with appreciation the participation in its session of representatives from United Nations bodies, specialized agencies and permanent observers, and found their statements and reports helpful in enabling the Subcommittee to fulfil its role as focal point for international cooperation in space.

D. Review of the future role and work of the Scientific and Technical Subcommittee

26. The Subcommittee recommended that the agenda of its thirty-first session include the following priority items:

(a) Consideration of the United Nations Programme on Space Applications and the coordination of space activities within the United Nations system;

(b) Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82);

(c) Matters relating to remote sensing of the Earth by satellites including, inter alia, applications for developing countries;

(d) Use of nuclear power sources in outer space.

27. The Subcommittee also recommended that the agenda of the thirty-first session include the following items:

(a) Questions relating to space transportation systems and their implications for future activities in space;

(b) Examination of the physical nature and technical attributes of the geostationary orbit; examination of its utilization and applications, including, inter alia, in the field of space communications, as well as other questions relating to space communications developments, taking particular account of the needs and interests of developing countries;

(c) Matters relating to life sciences, including space medicine;

(d) Progress in national and international space activities related to the Earth environment, in particular progress in the geosphere-biosphere (global change) programme;

(e) Matters relating to planetary exploration;

(f) Matters relating to astronomy;

(g) The theme fixed for special attention at the 1994 session of the Scientific and Technical Subcommittee: "Space applications for disaster prevention, warning, mitigation and relief".

28. The Subcommittee recommended that, regarding agenda item (g) in paragraph 27 above, COSPAR and IAF, in liaison with Member States, should be invited to arrange a symposium, with as wide a participation as possible, to be held during the first week of the Subcommittee's session, to complement discussions within the Subcommittee on the special theme.

29. With regard to the dates for the thirty-first session, the Subcommittee recommended that its session be scheduled from 22 February to 4 March 1994.